RUST GEOTECH INC.

Spectral Gamma-Ray Borehole
Log Data Report

Borehole # 41-13-10

Log Event A

Borehole Information

Farm : SX **Tank :** SX-113 **Site Number :** 299-W23-72

N-Coord : 35,177 **W-Coord :** 75,705 **TOC Elevation :** 663.03

Water Level, ft : **Date Drilled :** 10/6/1958

Casing Record

Type : Steel-welded **Thickness :** 0.280 **ID, in. :** 6

Top Depth, ft. : 0 **Bottom Depth, ft. :** 100

Equipment Information

Logging System : 2 **Detector Type :** HPGe **Detector Efficiency:** 35.0 %

Calibration Date : 03/1995 **Calibration Reference :** GJPO-HAN-1

Logging Information

Log Run Number : 1 **Log Run Date :** 7/12/1995 **Logging Engineer:** Bob Spatz

Start Depth, ft.: 97.5 **Counting Time, sec.:** 100 **L/R :** L **Shield :** N

Finish Depth, ft. : 0.0 **MSA Interval, ft. :** 0.5 **Log Speed, ft/min.:** n/a

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Analysis Information

Analyst : S.E. Kos

Data Processing Reference : Data Analysis Manual Ver. 1 Analysis Date : 12/4/1995

Analysis Notes :

This borehole was logged in one log run. The pre- and post -field verification spectra indicated that the logging system was operating properly during data collection. The energy/channel drift that occurred during the logging runs was minimal, and multiple energy calibrations of the log spectra were not necessary.

The casing thickness is 1/4 in.(0.250 in.), and a correction for 0.250-in.-thick casing was applied to the data. The borehole was dry and no water correction was required.

The only man-made radionuclide identified was Cs-137. This contaminant occurred from the surface to a depth of 2 ft.

Details regarding the interpretation of the data for this borehole are presented in the Tank Summary Data Report for tank SX-113.

Log Plot Notes:

Three log plots are provided. The Cs-137 activity is plotted on a separate plot to provide details of activity and distribution.

The natural gamma-ray logs show the activities of the naturally occurring radionuclides potassium (K-40), uranium (U-238), and thorium (Th-232). The KUT plot is provided to allow correlation of lithologic features between boreholes. The KUT activities observed in this borehole are typical for Hanford Site sediments.

A combination plot incorporates the Cs-137 and KUT log data with the total gamma-ray count rate derived from the spectral gamma-ray data and the gross gamma-ray data acquired with the WHC Tank Farm gross gamma-ray logging systems. This plot allows correlation of the Cs-137 contamination zones with lithologic features and with the gross gamma-ray historic record.

The statistical uncertainty in a measurement is represented on the log plots by uncertainty bars where appropriate. This uncertainty is reported at the 95-percent confidence interval. The minimum detectable activity (MDA) of a radionuclide represents the lowest activity at which positive identification of a gamma-ray peak is statistically defensible. The MDA values are indicated on the log plots by open circles. If the reported activity is slightly above the MDA, the 95-percent confidence interval may extend below the MDA value and the measurement cannot be stated with 95-percent confidence.

The Tank Farm gross gamma-ray plot is produced from the most recent data available from WHC. No corrections other than scale adjustments for plotting have been made to the data.